AMENDMENTS TO THE CLAIMS

1. (currently amended) Dosimeter for detecting high-energy neutron radiation ~~having~~ comprising:

   a neutron converter; and

   a detection element;

   ~~characterized in that~~ wherein the neutron converter comprises metal atoms ~~(7)~~ which convert the energy of the neutrons to be detected into protons, alpha particles and other charged nuclei in a suitable energy range so that they are detectable.

2. (currently amended) Dosimeter from claim 1, wherein the metal atoms ~~(7)~~ of the neutron converter ~~(3)~~ have an atomic number of Z>15, preferably Z>20.

3. (currently amended) Dosimeter from claim 1 ~~or 2~~, wherein the neutron converter ~~(3)~~ comprises titanium, chrome, vanadium, iron, copper, wolfram and/or lead atoms.

4. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the metal atoms ~~(7)~~ of the neutron converter ~~(3)~~ are stable in the sense of radioactivity.

5. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the neutron converter ~~(3)~~ contains metal atoms ~~(7)~~ with different atomic numbers.

6. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the neutron converter ~~(3)~~ comprises metal atoms ~~(7)~~ of alloys.

7. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the neutron converter ~~(3)~~ comprises at least two layers ~~(3a, 3b)~~ with metal atoms ~~(7)~~ of different atomic numbers.

8. (currently amended) Dosimeter from claim 1, wherein the neutron converter ~~(3)~~ comprises layers ~~(3a to 3e)~~ with metal atoms ~~(7)~~ where essentially only metal atoms ~~(7a to 7e)~~ with a specific atomic number are included in each layer

9. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the layers ~~(3a to 3e)~~ of the neutron converter ~~(3)~~, viewed from the side of the dosimeter ~~(1)~~ facing the neutron radiation, contain metal atoms ~~(7a to 7e)~~ with descending atomic numbers.

10. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein at least one of the layers ~~(3a to 3e)~~ with metal atoms ~~(7)~~ is configured as metal foil, preferably as rolled metal foil, or polymer foil sputtered with metal.

11. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the sequence of the layers ~~(3a to 3e)~~ with metal atoms ~~(7a to 7e)~~ of different atomic numbers is matched to the energy spectrum of the neutron radiation.

12. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the neutron converter ~~(3)~~, viewed from the side of the dosimeter ~~(1)~~ facing the neutron radiation, has ^{6}Li atoms and/or ^{10}B atoms and/or ^{14}N atoms ~~(9)~~ in front of the detection element ~~(5)~~ – preferably arranged in a thin layer.

13. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein at least two dosimeter elements with different metal atoms ~~(7)~~ for measuring the energy and/or angular distribution can be housed in a casing.

14. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the neutron converter ~~(3)~~ has a hydrogenous polymer between the metal atoms ~~(7)~~ and the ^{6}Li atoms and/or ^{10}B atoms and/or ^{14}N atoms ~~(9)~~.

15. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the neutron converter ~~(3)~~ comprises layers where the first layer ~~(3a)~~ facing the neutron radiation contains metal atoms, the second layer ~~(3c)~~ the hydrogenous polymer and the third layer ~~(3b)~~ ^{6}Li and/or ^{10}B and/or ^{14}N atoms ~~(9)~~.

16. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the neutron converter ~~93)~~ has fields (N1, N2, N3) with different structures arranged spatially next to each other.

17. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein a number of dosimeter elements ~~(1a to 1h)~~ can be arranged preferably symmetrically on the surface of a cone in order to carry out a local dosage measurement and a directional distribution measurement.

18. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein a number of dosimeter elements can be arranged on a phantom in order to carry out a directional measurement.

19. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the detection element ~~(5)~~ comprises at least one passive element and/or at least one active element.

20. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the passive element comprises organic high-molecular polymer, preferably polycarbonate or cellulose nitrate (preferably C39 or macroful), and/or an inorganic crystal and/or mineral, preferably a thermoluminescent crystal, in particular LiF, and/or inorganic glasses and/or an inorganic crystal.

21. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the active element has a semi-conductor, preferably silicon.

22. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein provision is made for a photon dosimeter.

23. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the converter layers and the detection element can be housed in a casing which has a front and back wall and side walls.

24. (currently amended) Dosimeter from ~~one of the preceding claims~~ claim 1, wherein the side walls contain borium, and/or cadmium and/or nitrogen (^{14}N) and/or lithium atoms (^{6}Li).